

California GARDEN

JANUARY-FEBRUARY 1987
One Dollar
Volume 78 Issue No. 1
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HORTICULTURE CALENDAR

*San Diego Floral Association Event

January 2, 1987 *
Floral Tour to Pan Asia Museum and View Rose Parade Floats in Pasadena
Call Jerry Ray (619) 232-2661 for reservations.
January 3, 4
San Diego Rose Society Pruning Demonstrations
Parker Rose Garden, Balboa Park, San Diego. Sat 9-1 p.m. Sun. 10-1 p.m. Free.
January 6-9
Fifth International Garden Trade Fair (VTB)
At the RAI Exhibition Centre, Amsterdam, Holland. 10:00 a.m.-5:00 p.m. daily; January 7 - 10:00 a.m.-9 pm.
January 15-16
San Diego Xeriscape Conference on Low Water Use Landscapes
Sponsored by Cuyamaca Botanical Society and San Diego County Water Authority. Sea World Pavilion 8:30 a.m. For registration and information call (619) 464-1980 ext 262.
January 31*
Drama in Design with Adrienne Green
Presented by San Diego Floral Association at San Diego Hilton Hotel On the Bay. Social 11 a.m.; Luncheon 11:45 a.m.; Program 1 p.m. Donation $22.50 Reservations call (619) 232-5762.
January 31-February 1
San Diego Camellia Society's 40th Annual Spring Show
Casa del Prado, Room 101, Balboa Park. Sat: 1 p.m.-5 p.m.; Sun. 10 a.m.-4 p.m. Free.
February*
San Diego Floral Arranging Classes will be scheduled in the Spring
Contact Marie Walsh (619) 298-5182 after February 1 for firm dates and reservations.
February 1
Fuchsia Pruning Demonstration by Ida Drapkin
South Coast Botanic Garden, 26300 Crenshaw Blvd., Palos Verdes Peninsula, CA, 2 p.m. Information (213) 772-5813.
February 5, 12, 19, 26 *
Thursday Workshop with Colleen Winchell.
Free floral crafts instruction. Open to the public, Casa del Prado, San Diego Floral Association Library, Room 105, Balboa Park. Thursdays 10:00 a.m.-3:00 p.m. Information: 479-6433.
February 7, 8
Temple City Camellia Society's Camellia Show
Featuring rare yellow camellias from the Yunnan Province of China. Ayres Hall, Los Angeles State and County Arboretum, 301 N. Baldwin Avenue, Arcadia, CA. Information (818) 446-8251.
February 8
Orchid Film and Talk by Dave DeYoung
South Coast Botanic Garden, 26300 Crenshaw Blvd., Palos Verdes Peninsula, CA, 2 p.m. Information (213) 772-5813.
February 11, 25, and March 11
Xeriscape Symposium Descanso Gardens
1418 Descanso Drive, La Canada Flintridge, CA. 7-9 p.m. Call (818) 790-5414 for reservations.
February 13-22
Riverside County National Date Festival and County Fair
Fairgrounds, Hwy 111 and Arabia Street, Indio, CA 10 a.m.-10 p.m. Admission $4.00; Children 5-11 $2.00. Parking all day $2.00 Information: (619) 342-8247.
February 13, 14, 15
Farm Conference '87 "Strategies For a New Agriculture"
At California State Polytechnic University, Pomona, CA Information, Small Farm Center, University of California, Davis 95616, (916) 752-6690.
February 14 *
Floral Tour to San Gabriel Mission and Huntington Library.
$21 per person. Call Jerry Ray 232-2661 for reservations.
February 15
Azalea and Camellia Talk by Eleanor Barker,
expert horticulturist from the Begonia Farm. South Coast Botanic Garden, 26300 Crenshaw Blvd., Palos Verdes Peninsula, CA, 2 p.m. Information (213) 772-5813.
February 17*
San Diego Floral Association's Meeting includes a Pot Luck dinner and talk on "Aphrodisiacs in the Garden" by Betty Furute
$1.00 for members, $3.00 for guests. Call (619) 232-5762 for reservations.
February 21, 22
San Diego Orchid Society's Spring Mini Show
Casa del Prado, Balboa Park, Room 101. Sat: 12-4:30 p.m.; Sun: 10-4:30 p.m. Free.
February 21, 22
Southern California Camellia Council Spring Show
Sponsored by the Descanso Garden Guild, Descanso Gardens, 1418 Descanso Drive, La Canada Flintridge, CA, 9-4:30 p.m.
February 22
Wild Mushroom Fair with David Arora as guest speaker
Slide show, display of one hundred species of mushrooms and identification of mushrooms as poisonous or edible. Los Angeles State and County Arboretum, 301 N. Baldwin Avenue, Arcadia 91006-2697. Information (818) 446-8251, 9-4:30 p.m.
February 22
Summer Garden Lecture by vegetable expert, Sid Horton and flower expert, Gloria Rice with tour of volunteer garden
South Coast Botanic Garden, 26300 Crenshaw Blvd., Palos Verdes Peninsula, CA. Information (213) 772-5813, 2 p.m.

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ON THE FRONT COVER
ZOO EXHIBIT WINS LANDSCAPING AWARD

The California Landscape Contractors Association presented the San Diego Zoo with the Jere Driscoll Award for best commercial landscaping in California during 1986. The award went to the zoo for its new Kopje exhibit. Installer of the project was Ecosystems Imagery, Inc., a landscape firm located in Cardiff. The designer was Jones & Jones of Seattle, Washington. The Kopje is a half-acre replica of a rock formation found on the Serengeti Plains of Africa, along with plants and animals common to that area.

For only $25.00 a year, a **professional business** relating to horticulture can become a member of San Diego Floral Association and be listed in each issue of California Garden magazine as a "Professional Affiliate". This listing would include name, address and telephone number of the business. It is a wonderful opportunity to reach gardeners.

We welcome articles which are both informative and interesting to California gardeners. Persons who furnish article, front cover, photos, sketches, or pictures used in the magazine will be entitled to up to 3 copies of the California Garden magazine containing their contribution, in appreciation. Since we are a non-profit organization, no fees will be paid for articles or pictures. Submit articles double or triple spaced, and include postage if you desire to have your article or photos returned.

The policy listed above was approved by the Governing Board of the San Diego Floral Association on 2 August 1985 and is effective immediately, unless otherwise noted above.

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(continued on page 30)



Tree-planting has long been a favorite form of civic beautification. Here, in 1916, Mayor Capps and William Pfahler, president of the East San Diego Board of Trustees, are paying young Webster Trask 50 cents apiece for acacia trees to be planted by the Progress and Prosperity Club.

Credit: San Diego Historical Society — Ticor Collection

Horticulture Heritage is YOU

By Carol Greentree

You may be quite surprised to realize that YOU have been playing a hidden role in the San Diego tableau of gardening. You are, in truth, a significant part of our local horticulture heritage!

YOU are the plant-fancier and garden-lover who helps make San Diego one of the most choice planting regions in America. Like a single arresting tile in a beautiful large mosaic, YOU are a meaningful part of the larger garden-scheme of things. Your special interests, your enjoyment of a favorite plant society (or two, or more...) and your contributions to the landscape/garden enthusiasm of this area make San Diego a very exciting place to be in the '80s.

Whether in the recent or distant past, your involvement really matters to horticulture historians. Your memories of the events and adventures of your garden club, your plant society, your study/action group are the stuff horticulture history is made of. You helped paint the present picture of San Diego, with its palmy parks and pretty private gardens and popular public plant shows.

Since you are involved with the garden growth of San Diego, you might like to know about a group which is interested in your role in the county's still-unfolding botanical drama. It is the Horticulture Heritage Committee and it is very new. Sponsored by the San Diego Historical Society, it will be barely a year old when you read this.

Co-founders Vonn-Marie May and Tom Scharf and I were pleased to discover that we each shared the others' interests in old gardens. We gathered a handful of like-minded friends and started meeting regularly in the Serra Museum. We began to produce a modest newsletter, and engaged the interest of several out-of-town horticulturists and designers. On invitation, we produced

a slide talk for the Congress of History, focusing on the 1986 theme, "The Future of the Past". We staged two garden work parties at the Sweet House — which is owned by the Historical Society — and were amazed by the eager participation of members who counted it a privilege to weed a bona-fide Kate Sessions garden! (The only K.O.S. garden for which a paper plan has ever been found.)

We were also dazzled by treasured gifts which came our way. Barbara Jones, of the S.D. Floral Association, made a collection of antique glass slides available for John Rojas to copy at the photo archives. He meticulously duplicated fragile early tinted images from both Kate Sessions' and A.D. Robinson's legacies. Barbara Jones also prompted the Floral Association gift to the Historical Society of a complete set of CALIFORNIA GARDEN magazines...invaluable for local garden research.

We would like to include you — a reader of America's oldest garden magazine in continuous publication — in our adventure. Here are some ideas which may appeal to you or to your garden group:

1) Write your garden memoirs -reminiscences of your childhood in a San Diego garden. Or tell about the growth of your own interest in plants.

2) Document the history of your garden club. Use its scrapbook and minutes to build a permanent chronicle of its growth.

3) Research the horticultural lives of key leaders in your plant society. Assemble personal memorabilia, if possible.

4) Help establish a slide bank and photograph collection of pictures of older gardens. Scour your own snapshot albums for photos of special plants and landscapes.

The Horticulture Heritage Committee would like to help you create an official history of your garden group. We'd also be happy to assist you in putting your own horticultural reminiscences and snapshots on record. We would be delighted to work with you in inventing a project of your own. We can suggest readings to get you started, and can present a slide talk, to stimulate your ideas.

The purposes of the Horticulture Heritage Committee are essentially educational. You can count them on the digits of one hand:

1) We want to study the horticulture-related history of San Diego. Gardens, nurseries, parks, landscape styles; key horticulturists and new plant introductions interest us especially.

2) We hope to encourage preservation and restoration of historic garden sites and specimen plants.

3) We'd like to promote scholarly research and collect the artifacts, images and documents that illuminate San Diego's horticultural development.

4) We plan to interpret San Diego's unique horticulture heritage and landscape legacy through museum exhibits and publications.

5) We want to educate the general public about the role plants and gardens have played in the economic and cultural growth of this area.

We think it is worthwhile to document as much of San Diego's horticulture/landscape past as we can, and as soon as possible — before it vanishes from memory and attic trunk. In garden history, the challenge of playing detective will never be easier than it is right now...and you are the expert who knows where the best clues are. The Horticulture Heritage game is partly history and partly mystery, and we hope you'll enjoy playing it with us!

Our quarterly newletter, TRELLIS, is filled to the margins with books, articles, project plans, seminars and programs which will interest history buffs. We have already created a rewarding network of subscribers, and hope our idea will continue to grow as it reaches others in California.

If you are interested in receiving a sample copy of TRELLIS for yourself or for your favorite garden group, please send your name and address to:

HORTICULTURE HERITAGE COMMITTEE
P.O. Box 3085, San Diego, CA 92103

We will also send you current membership and subscription information. We'll be happy to hear from you!

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A Christmas Tradition — Poinsettias

From California Association of Nurserymen

The poinsettia has been the symbol of Christmas for many years in many parts of the world. But history tells us that it had its beginnings as a cultivated plant by the Aztecs long before Christianity came to this hemisphere. Because of its intensely brilliant red color, it represented purity to the Aztecs. Yet, they were able to use this beauty for practical things too. An excellent purple dye was made from the bracts and the latex was a source for medicinal products to combat fevers.

In the seventeenth century, Franciscan priests introduced the flower into a nativity procession known as the Fiesta of Santa Pesebre. Word of the incredibly beautiful flower blooming at Christmas time soon spread throughout the world.

To keep your poinsettia plants happy and colorful throughout the holidays, a few steps should be taken. First, select a plant with foliage down to the soil line and see that it has some small green buttons in the center of the bracts. These will open later on. Upon getting them home, place the plants where they get enough light like the one where you could read the fine print on a bottle. Be sure to water the plants thoroughly so that the entire soil is saturated but do not leave it standing in water. Spill out the excess in the saucer.

As your poinsettias flourish and decorate the home, future waterings should only be done when the soil feels dry to the touch. Feed them within 3-4 days of obtaining them with a light feeding of any product you would normally use for your houseplants. As far as light goes, they need at least 6 hours of bright light per day and a temperature of 72° during the day and 60° at night. If the temperature is too cold, it will cause the poinsettias to drop their leaves. Drafts and direct blasts from the furnace or fireplace will also cause the plants to suffer.

After the holidays, you may want to keep your poinsettias as houseplants. If this is so, then a few more simple steps will assure you of a friendly new companion to your indoor garden. Place your plants where they will get good light and keep the soil moist. As the weather warms, the poinsettias will put out new growth while still holding on to some its colorful bracts. Prune the stems, leaving 2-3 leaf nodes (those bumps along the stem) as the bracts fade. Keep it pinched or pruned as it grows in order to control its size and shape.

The poinsettia is a heavy feeder so a light feeding with each watering is in order. Of course, you can use a slow release fertilizer also. If the plant is allowed to follow its own course, it would not color-up next Christmas so you must help it along. When October 1 comes around, find a dark closet or other dark spot where you can place your poinsettias for 14 hours each night (5 p.m.-7 a.m.). Remember, even the smallest amount of light during these 14 hours can delay the blossom cycle. This area should also have a temperature of 65°, as much below this the process will also be slowed.

During the day, see that the plants get 4-6 hours of direct sunlight. Follow the same watering and feeding schedule and by the first of December you should have a poinsettia that is coming into full bloom. The poinsettia is one of the most sensitive plants to light for blooming in all of nature and to have it feel at home as if it was in its native location you will fool it into blooming again for you next Christmas.

Whether you stay traditional with the famous red poinsettia or venture towards 'Jingle Bells,' a red and white almost spotted poinsettia or the pinks, whites or those with flecks of color, you will be sure that this plant will decorate the home for the holidays like no other. You'll find poinsettias now growing in baskets, as small trees, in miniature or those with giant bracts but all spell beauty.

Don't forget to pick up a few extra as a gift for your holiday hostesses or as a last minute gift for someone you haven't seen in a while and visits you this Christmas.



ILLUSTRATION BY KAREN KEES

Let's Garden For Fun

By Karen Kees

Gardens are for pleasure; delightful environments shared by people and plants. Good gardens are considerate of the needs of both.

Successful gardeners feel a kinship with plants and know that plants are not static ornaments. Plants grow vigorously as youngsters, mature and finally die: just like people. Each is an individual and has an inherited destiny.

Too frequently, landscaping shows little regard for plants; potential or their well being.

This may be the consequence of thinking of our plots of land as "yards" instead of gardens. Too often, we consider our yards to be just like our living rooms, only outdoors. Plants are thought of as decorations and expected to behave like sofas, lamps and chairs.

"Instant landscapes" are planted in a weekend. The goal is achieved; a landscape that looks finished immediately. But, too many plants are put in and the wrong ones chosen.

Fast growing plants are favored, but they soon overgrow their spaces with rank growth.

The long term is sacrificed for the present. Poor planning and over-planting cause problems later on as the plants crowd and are weakened by competition.

Eventually, our outdoor spaces become sources of irritation and endless weekend chores; lawn mowing, spraying, pruning, clipping and weed pulling. We end up battling our plants, trying to control them.

People tire of waging war on their landscapes; it's futile and unrewarding. Condominium living looks inviting after years of servitude to a lawnmower. In the name of low maintenance, yards are filled with concrete and gravel. These hard materials can be attractive design features when used sensitively and in moderation. If you use too much, your yard will resemble a parking lot.

Landscaped yards have little in common with real gardens.

Landscaping frequently lacks individuality

and imagination. Often it consists of the obligatory lawn and a few severely clipped foundation shrubs. The best thing you can say about most landscaping is that it looks tidy and doesn't upset the neighbors.

Gardens, on the other hand, are personal places of relaxation and refreshing activity. They are places to express your personal taste and have fun. In a garden, plants are carefully chosen, thoughtfully planted and joyfully tended. Plants are encouraged to grow as nature intended, and valued for their unique qualities. Slower growing, higher quality plants are favored.

A garden can be any size: a few lovingly nurtured potted plants on a balcony, a row of flowers, a couple of fruit trees and plot of vegetables in the backyard or acres of ornate plantings on an estate. True gardens combine the needs of plants and people; both benefit.

Gardening is delightful recreation. Europeans have known this for centuries. The English national pastime is gardening. Our grandmothers cherished their gardens and relished any spare moments they could devote to them. Past generations instinctively went to the garden for what I call "dirt therapy". An hour or two helps relieve stress.

Fortunately, Americans are rediscovering the benefits and fun of gardening. New ideas in gardening are emerging. One is the edible landscape which is both beautiful and food producing. People are planting gardens to attract, feed and shelter birds and other wildlife. Gardens devoted to native plants, and preservation of rare species are increasingly popular. Pleasure gardens of scent and texture stimulate the senses. And my favorite, the old fashioned cottage garden, is enjoying an enthusiastic revival.

An American style of gardening may finally be emerging. The French, English, Italian, Spanish and others have had identifiable garden styles for hundreds of years. It's our turn.

Artist Karen Kees is a Garden Designer/Consultant based in Poway. Her California cottage Garden is open Tuesdays 1:00 to 3:00 p.m., March through July, 12819 Selma Ct., Poway, CA.

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A Cymbidium Spike

By Bill Gunther

So you don't know a cymbidium bloom spike when you see one! Well, join the crowd. The best growers, who see thousands of spikes each year, get confounded from time to time, so it's not surprising that we who have a few plants in the backyard get lost. The spike hunt game separates the men from the boys all-right, and it starts with the dyed-in-the-wool enthusiast about the first of October. Most of us rank amateurs are willing to hold off a month to know what to look for. Sometimes there can be no doubt, but, just as often, the differences are not readily apparent.

Generally there are some characteristics peculiar to a bloom spike, and if you know the signs, your correct guesses should average fairly high. Look for the fatter, thicker growths with the rounded, more blunt tip. If it does not show the separation at the tip into juvenile leaves, the chances are good that it's a spike. And, if the growth-spike is coming out between the lower leaf of a green bulb and the bulb itself, you can almost make book that there's a flower in your future. For your own peace of mind, I would suggest that you call everything that you are not absolutely sure of, a growth.

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ORGANIC VERSUS INORGANIC GARDENING



By Jacob R. Mittleider, LLD.

There are two main types of soil: 1) Peat and muck; These are organic - meaning they are made of plant residues; 2) Mineral soils; These are chemical - meaning they contain the same substances as rocks.

1) For all practical purposes, organic soils contain no natural fertility. They do produce excellent crops when the essential plant nutrients are supplied through inorganic chemical fertilizers.

2) Mineral soils are rock fragments. Thus, rocks and soil are composed of identical parent materials. Both contain the same substances. To a chemist, the subtances are called chemicals. To a naturalist, they are called minerals. To a metallurgist, they are called metals. Considerable confusion abounds over the use made of the three words - chemical, mineral, and metal. They all refer to the same thing, but the implied meaning is quite different.

Peat and muck soils are extremely limited for crop production compared to mineral soils, and plants generally grow in inorganic mineral soils. For all practical purposes, plants do not extract organic substances from any soil in the growing process. They do extract inorganic compounds in solution, and utilize these in their growth processes.

The word "organic" means the origin contains physical structure as in animals or plants. The word "inorganic" means absence of organized physical structure, substances that do not arise by natural growth. Rocks contain scores of metals (compounds). Sometimes rocks contain specific metals in large concentrations and are processed to obtain the particular metals.

If, indeed, rocks and mineral soils are the same materials, then soils are minute particles of rock and the rocks are large particles. Both contain the same metals.

Apparently for centuries, mineral soils supported luxuriant healthy plant growth. Why do crops planted in the same soil fail today? There are several reasons:

Before 1900 A.D., farming procedures were performed with hand and animal power. Also, only one crop was harvested in a single season. Crop residue and animal manures were returned to the land. These supplied humus and small amounts of fertilizer to the soil inventory.

With the advent of tractors and other farm machinery, horses were replaced. Consequently, considerably less manure and crop residue has been returned to the soil, and in many cases none is returned.

Further, increased costs of production and changes in growing practices have greatly increased yields, and it is common procedure to grow two or more crops on the same land in one year.

Every crop takes its toll. All around the world there are millions of acres of land that have been farmed and yet the fertility is so low that crops fail completely. Why? This question leads to a discussion of the basic problem of soil fertility everywhere. An answer to this question differs between an Athiest and a Creationist. An Athiest applies millions of years to the process of evolution.

A Creationist accepts the Biblical account in Genesis of the origin and changes which have occured. The Creationist position makes the problem of soil fertility very simple and understandable.
At the time of creation, soil and rocks were both called "dry land". Vegetation for both man and animals grew on the "dry land". Before man "sinned" the earth was watered with a mist. Mist watering eliminates erosion. Therefore, there was no loss of soil fertility from leaching or erosion.

There is no Biblical record of wind until after the flood of waters which covered the entire earth. Since the "flood", there have been rain and wind; both natural elements that produce leaching and erosion. The flood happened approximately 1685 BC after creation. The birth of Jesus was about 2,000 years after the flood. We are living nearly 2,000 years AD. This adds up to around 4,000 years of rain and wind. Chemical changes in the soil are continuous. Through this process the various elements are changed from insoluble to soluble compounds, and visa versa.

Plants utilize only water-soluble chemicals and water-soluble chemicals move also with the soil moisture. In this way they are carried out

of the soil into creeks. The creeks empty into rivers and rivers empty into oceans. Thus, the chemical inventory of the land is gradually reduced and deposited in the oceans. This has gone on nearly 4,000 years.

Today, a number of countries are mining the ocean floors for the metals that are being deposited there. The companies involved in the mining operations do not hestitate to explain the source of the metals they recover. One example: a million tons of magnesium recovered every day from the oceans would not keep up with the amount being deposited there.

It should be clear, therefore, that the problem of soil fertility that we see today revolves around a greatly reduced chemical inventory in the land. Plants are healthy, vigorous, and productive, when 16 chemical compounds are present in sufficient amounts and in a state of balance in the rooting environment.

Man can supply and regulate 13 of the 16 compounds. Three-carbon, hydrogen, and oxygen are airborne and man cannot regulate them. These three do not limit plant growth. Those which do limit plant growth are the 13 man can regulate.

At this point, it seems proper to state again that plants do not utilize organic substances. The raw materials they do utilize to make growth are soluble inorganic chemical compounds. Therefore, there are no organically produced vegetables. However, vegetables themselves are organic. Before manures and composted materials increase soil fertility they must decompose (rot) to the point where the organic minerals they contain revert back to inorganic chemical solution.

At that point, the inorganic solutions are available for use and/or they move out of the soil with the soil moisture, or are chemically changed back into unavailable (insoluble) chemicals and stay in the soil.

There are valid objections against organic food products:

1) The availability of manures and organic residues.
2) The unbalanced ratio of essential nutrients in organic materials.
3) The low supply of nutrients in manure and compost.
4) The liability for crop failure due to the unknown quantities of nutrients in the organic materials.
5) Failing crops do not lend to corrective measures to save the crops.

On the positive side, manures and compost are beneficial to improve soil structure, moisture holding capacity of the soil; micro-organism activity is increased and aeration is improved. Therefore, where these materials are available they should be incorporated in the soil.

WHAT ARE CHEMICAL FERTILIZERS?

They are compounds generally mined from rocks. Twelve of the 13 essential plant nutrients man can regulate originate in rocks and are mined. Nitrogen starts in the atmosphere. It is allowed no rest in the soil but chemically changed from one compound to another until the cycle is completed and the element (N2) returns to the atmosphere to start the cycle all over again.

A LIST OF THE ESSENTIAL PLANT NUTRIENTS MAN CAN REGULATE

Nitrogen	Iron	Magnesium	Sulfur
Phosphorus	Copper	Manganese	Zinc
Potassium	Boron	Molybdenum	Chlorine
			Calcium

Through years of experimentation, man has been able to determine how much of each compound a plant will require to mature a specific crop yield. He has also learned the chemical equations the separate compounds must be in before plant assimilation takes place.

If the observations alluded to in this report are correct, the facts can be summarized as follows:

1) Soil inventory of the essential nutrients are too low now to supply the daily requirements of a growing crop.
2) Rain, wind, crop removal, and leaching losses are responsible for the losses in soil fertility.
3) Plants utilize inorganic chemical compounds and convert them into organic compounds. Man and animals utilize organic vegetation.
4) Soil and rocks are the same materials.
5) Soils, at one time, produced healthy crops because they contained an adequate supply of the essential chemical compounds.
6) The essential compounds are found in rocks in inexhaustible supplies around the world.
7) These are mined and made available in guaranteed analysis percentages.

OBVIOUS CONCLUSION:

For every crop, supply the soil with the proper amounts of the separate essential chemical compounds and instantly produce healthy, flavor-filled, high-yield crops. Soils never wear out. The same quality and high yield crops can be produced forever on the same land.

Critics who condemn chemical fertilizers on the basis it destroys soil structure mistake the facts. The breakdown of soil structure is due to the lack of organic residue. Of necessity, crops are being grown on land nearly devoid of organic materials. This, however, is not that serious. Common vegetable crops and others have a fantastic ability to grow in extremely hard clay soils if the essential nutrients and moisture are adequate.

Another similar criticism is that nitrogen residues are contaminating run-off water and

rivers. There is truth in this statement and it points out one of the major problems in growing crops.

Healthy, supreme quality, high yield crops cannot be grown without chemical fertilizers. But, as it is with all good things, they can be abused. We live in today's world. No longer can seed be planted in the ground and a bountiful harvest gathered later. Diligent work and new and sensible methods must be used to reap a good harvest.

This points to the need for training. Millions of tons of chemical fertilizers are used annuallly by people who have little or no instruction in their use. For lack of training, fertilizers are often times used unwisely and in greater applications than necessary. The way to correct the problem of misused chemical fertilizers is to instruct people in proper usage of the product.

To the zealous advocates of organic vegetable production it should be fair to ask:

1) Why are the vegetables and the fruits grown organically so out of shape and inferior in quality? An experienced grower can tell by the shape and color of the fruit which nutrient's deficiency was involved.
2) Why have no large scale operations demonstrated that uniform high quality, and high yield crops can be produced without failure on the poorest land?

Jacob R. Mittleider, LLD is a world renowned agrictultual consultant, lecturer and author. Among his books are: More Food From Your Garden, Food for Everyone, Let's Grow Tomatoes, and his most recent publication Grow Bed Gardening. Dr. Mittleider is known thoroughout the world for his expertise in plant growth and food production.

January Pruning

By Pop Larsen, Builders Emporium

Those rose bushes of yours were so pretty this year that it hurts just to think about cutting them back. But if you don't, they'll turn into a hopeless tangle of thorns before the spring is over.

Cutting off old wood produces new wood. By cutting the old wood off, the plant's energy is directed to the new growth and flowers.

There are two major rose groups. I am going to concentrate on the rose that should be pruned while the bush is dormant, in January. These are: hybrid teas, grandifloras, and floribundas.

These roses will bloom on the current year's growth. Three year old wood should be removed, and newer wood cut back, to speed up the start of new, blooming shoots this year.

"Buds before you start" is a good rule to remember. When your rose bush goes into action, (the buds begin to swell) so should you. If you're in an area where there are late frosts, you should wait until the buds begin to grow, because the tender new growth that follows pruning might otherwise be damaged. In mild climates this pruning signal is not quite as critical.

When pruning a mature plant, the first step is to thin out weak twigs and cut out all dead wood. Cut out inward crossing branches to open up the center of the plant.

Frost damage must always be removed. To do this, cut off the frost-blackened branch down to green wood just above an outside facing bud. Check to be sure the branch is creamy white in the center. If it is brown or tan, keep cutting until you see a white center by an outside facing bud. Then move on the next branch.

For normal pruning, you should cut back about 1/3 of the wood. You want to cut off wood that is three years or older, leaving mostly wood that is a year old. How do you tell how old the wood is? Green wood is one year old; two-year-old wood is brownish green; and at three or more year old, the wood is brownish-black.

Cut all dark wood at a point where young green wood is emerging. Next, cut two-year-old wood back about a third if it is strong, and way back to two or three buds if it is weak. To create a classic 'vase' shape, all cuts should be at outside facing buds.

The second major group of roses doesn't follow these general pruning guidelines. They bloom on last year's wood. To prune these roses, you should wait until after the first flowering, and the appearance of new shoots in the spring. When the bush has reached your desired size, cut off one old shoot for every new shoot that appears.

The ancient **Rosa adorata** and **Rosa chinensis** bloom on both old and new wood. Prune old wood and the current year's wood on a single bush as if they were separate plants. If you have these varieties of rose, they will begin to bloom on this year's growth much later in the year.



PHOTO BY WILBUR H. GLOVER

COCHEMIEA SETISPINA
from Baja, California near
San Borja Region

CACTUS-OF-THE-MONTH

Genus Cochemiea

By Dorothy Dunn

Among the many plants now classified as **Mammillarias,** there are several small groups of plants which formerly were routinely accepted as separate "fringe" genera. This was usually due to one or more distinguishing characteristics of flower, fruit, or seed which were at one time considered to be unique to these plants, but which later studies revealed as being not, necessarily, uncommon to Mammillarias. These genera, are **Cochemiea, Dolicothele, Mamillopsis, Bartschella, Krainzia, Porfiria,** and **Solisia.** The authority for this broader, more modern concept of combining these plants under **Mammillaria** began with the publication in 1971 of a paper by David Hunt entitled "Schumann and Buxbaum Reconciled" and this was subsequently endorsed and enlarged upon by John Pilbeam in his recent book **Mammillaria: A Collectors Guide** (1981).

Cochemiea is probably still the most controversial of these "submerged" genera, and is not yet readily accepted as belonging to **Mammillaria** by many, botanists and enthusiastic hobbyists alike. This is a genus of only five species, all native and endemic to the peninsula of Baja California and a few of its adjacent islands. According to George Lindsay, who monographed the genus in 1945: "An interesting characteristic of these plants is their isolated, limited distribution: their habitats do not overlap and they never intergrade with one another." All species are characterized by brilliant red zygomorphic flowers and in habitat often form huge clusters of hundreds of heads. All five have watery, not milky, sap, and four have hooked spines.

Although the first four species to be discovered were originally described as **Mammillarias** (or **Neomammillarias**), prior to 1900 Katherine Brandegee had suggested **Cochemiea** as a name for one of the sub-genera of Baja California Mammillarias, and in 1899 Mr. F.A. Walton informally recommended that **Cochemiea** be adopted as the generic name for these species. However, this name was not given official recognition until 1923, when Britton and Rose first used it in their **Cactaceae.** The name commemorates the Cochimis, an extinct tribe of Indians which once inhabited the central part of the peninsula.

Cochemiea poselgeri was the first Cochemiea to be discovered and described. It is the best-known species of the genus and has the widest distribution, inhabiting lower elevations of the peninsula from just south of Santa Rosalia to Cabo San Lucas. At La Paz it grows in pure sand on the beach, but in other areas it can be found hanging from cliffs in pendant masses, with stems reaching lengths of five to six feet. It is one of the most showy of cacti in its area of distribution, and grows fairly well under cultivation.

Cochemiea halei occurs only on Magdalena and Santa Margarita Islands and is still considered to be very rare. It is the type species of the genus, and was first collected and described by Mr. T.S. Brandegee in 1889. During the 1930's it was first introduced commercially by Howard Gates, an intrepid, inveterate Baja explorer and collector whose name is almost legendary and is linked indelibly with many Baja California discoveries. The plants have straight, dark-colored spines on nearly upright stems and, although in habitat it forms enormous clumps, it does not do well in cultivation.

Cochemiea pondii, also rare, occurs only on Cedros Island, off the Pacific coast of Baja California, where it grows in association with a wealth of other endemic species. It has an interesting growth habit in that the stems branch at and along the entire length of the older reclining stems. It was also described in 1889.

Cochemiea setispina, from the Sierra San Borja in mid-peninsula, is the most attractive species in the genus. It grows in rich canyon soil, forming huge pillow-like clumps, sometimes six feet in diameter, which sprawl over rocks. It was also introduced by Howard Gates, and presents no problems in cultivation. In 1936 George Lindsay found one specimen of **C. setispina** on Angel de la Guarda Island in the Gulf of California, and a week later, near Calmalli, located many fine clusters, some of which were in flower. They occurred at higher elevations, and were much more plentiful than at San Borja.

Cochemiea maritima was the last Cochemiea to be discovered, and has the reputation of being the least attractive of the genus. As the name implies, it is strictly a coastal species, being native to the Pacific coast areas near Punta Blanca and Santa Rosalillita, and does not do well in cultivation although clusters in habitat can easlily reach

a diameter of three feet. It was discovered by George Lindsay in 1935, who never found it growing more than 300 yards from the ocean. it was also introduced to the trade by Howard Gates.

It is a special privilege to find these five species in the wild, as each occupies its own separate, unique, and often inaccessible niche on the peninsula. I hope one day to see them all in habitat.

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PHOTO BY RUBY LAW

Tree Tomato

(Cyphomandra Betacea)

By Ruby Law

For real fun try growing the amazing tree tomato. It has a taste that is different and the large exotic leaves, when crushed, smell like fresh popped popcorn.

You will be delighted to see huge hanging clusters of succulent red tree tomatoes borne in successive waves, about 5 months a year, making a rare and ornamental plant — pretty enough for a natural, real live decorative tree at Christmas season.

Tree tomato fruit is colorful, delicious, a valuable addition to our winter food supply, and can be used in a variety of recipes. It is a true table delicacy when eaten raw. Simply cut it in half and scoop out with a spoon.

The tree tomato plant is a native of South America where it is found mostly in the more temperate zones of Peru and Brazil, not tolerating temperatures below 28°. Choose well protected planting sites free from strong winds and chilly nights. Staking is desirable to prevent the plant moving in the wind.

Tree tomato plants will not stand excessive soil moisture or dryness, therefore, a well drained soil is important. A soil consisting of a mixture of sand, soil, and peatmoss is ideal.

Tree tomatoes are heavy feeders. Garden blood and bone fertilizer, or any well balanced fertilizer will do. Feed regularly about every month with about 4 to 8 ounces of fertilizer per tree.



Potting African Violets

By Frances C. King

A baby African violet plant should be potted in a pot no larger than 2½" in diameter because pot size has a tremendous effect upon the health of the plant. Grooming and training should commence while the plant is in the small pot. All immature or secondary leaves around the outside edge of the plant should be gradually removed. The African violet plant should grow in the shape of a wheel with the leaves growing symmetrically all around like the spokes of the wheel. Do not move the plant up to the next size pot until it blooms.

It has been well established that the correct size pot for an African violet plant is one which is approximately one third the diameter of the plant. Thus, a plant that is 9" in diameter will be in a 3" diameter pot and a plant that is 12" diameter will be in a 4" pot, etc. This rule of thumb is not to be followed just because the plant looks better, but rather because it performs better. If a plant is potted in too large a pot, there is danger of over-watering. Too much soil between the root ball and the pot can result in trouble as the soil will hold so much water that the necessary air is excluded. African violets are shallow rooted so they do better in a short pot; sometimes called an "African violet tub." A plant potted in a pot which is too large in diameter, or too tall, will hold too much soil. The excess soil will hold too much moisture which the plant cannot utilize. If the plant does not have enough vigor to absorb the water, the soil may sour and become stagnant and the roots will decay.

The condition of the roots in the ball of soil in a pot should not remain a mystery. When planting, a piece of window screen can be placed in the bottom of the pot. Before deciding to repot, the soil mass can be pushed out of the container by gently pushing a small object up through a drainage hole against the screen. The root ball should then come out intact for examination. A plant is ready to be potted up to the next size pot when the ball of soil is well covered with fine white roots. If it is not ready for the next size pot, lower the plant back into the pot, tap it on the table and water around the edge of the pot.



Sketch — Frances C. King

SOIL MOLD METHOD

By far the easiest method of shifting an African violet plant to the next size pot is by the soil mold method. Remove the plant from the pot. Take the next size pot and place a piece of window screen in the bottom and add a little soil. Now place the empty pot in the center of the larger pot. Water the soil, then carefully remove the inner empty pot. Place the plant into the cavity. Gently tap the side of the pot to collapse the mold. The plant should be perfectly clean, soil undisturbed, and it will continue blooming as though it was never moved.



Father Serra's
Rose of Castile

By Betty Newton

References to the Rose of Castile are surrounded by an aura of legend. Three roses vie for the name 'Rose of Castile' in southern California's history. A little sleuthing helps us understand our roses of Castile better.

In 1769 as Spaniards trekked north along the boney ridge of Baja California toward what became San Diego, and later when they were seeking Monterey Bay, they saw roses. Father Junipero Serra calls them the 'Rose of Castile' in his diary.

Omer Englebert, in his The Last of the Conquistadors, Junipero Serra, quotes the good friar:

> "Beginning with the first of June they had done with 'naked hills and stony deserts.' ... they found vines growing wild, and there was grass again; the Spaniards had the feeling that this was the beginning of New California"

> "To crown his happiness Junipero caught sight, next day, of 'all kinds of flowers, including the most beautiful of all — the rose of Castile.'".

Historian Hubert Bancroft, using Father Juan Crespi's diary, writes:

> "Four days after setting out from San Diego the explorers reached the pleasant valley in which the mission of San Luis Rey was later built ... nothing along the way attracted more attention than the abundance of flowers, especially of roses similar to those of old Castile, and, for that reason, delightful to the Spaniards. Crespi notes the plucking of one branch bearing six roses and twelve buds."

Old books and younger botanists suggest why Spaniards would call a wild California rose 'Rose of Castile' on first sight.

In 1986 rare rose nurseries sell at least two different roses as 'Rose of Castile'. One of these probably came to California 200 years ago, but it is not conceivable that either was here when the first Spanish explorers or Father Serra came.

Vegetation in 1769 San Diego was certainly wild and virtually untouched. The residents were Diegueno Indians and the flora was native. Many-petalled roses such as these rarely grow wild and when double flowers do develop, they are isolated sports.

Serra's party and all Spaniards coming from the dryer regions of Mexico certainly were enraptured by the same rose that grew in the dells



Rosa californica appears from the northern third of Baja California into Oregon. This is the most common wild rose in California. (photo by Betty Mackintosh)

when John Muir walked through California a hundred years later. Everywhere that Muir went he saw the wild rose that blooms each summer.

Rosa californica, with its simple one-inch pink blossoms is very much like **Rosa canina,** the dog rose that grows wild over most of Europe.

The European dog rose and our native have these traits in common: five-petalled 1 to 1½ inch pink flowers, five to seven toothed, medium sized dark green leaves, and fairly tall growth habits. Both can arch well over six feet along shaded stream beds. The average measurements of a dog rose's flowers, leaves, and fruit are in the same range as those of our native although in each respect the European rose may become a little larger.

It helps to know what roses were in Castile in Serra's day. Enough careful records were kept then so that we have an answer.

Father Serra was born and lived in Majorca. He was raised, schooled and taught on the larger of the two Balearic islands off Spain's southern coast. One day he boarded a ship for a Spanish port from which he promptly departed for Mexico. Serra never visited the interior of Spain.

Rosa canina L. (1753), the dog rose pictured here, grows in Spain and in Majorca. A 1779 listing of roses of Aragon (adjoining the kingdom of Castile to the east) sits in our Natural History Museum. It mentions only two different types of canina and one alba rose. Each, of course, is a species or sub-species within the genus rosa. Serra founded San Diego in 1769 so the list is roughly contemporaneous.

CLOSE UP

Rosa Canina and **Rosa californica** each have variations — enough so that they are subdivided by botanists. There are fourteen sub-species in

the **R. canina** group. And plants of our wild rose, **Rosa californica,** which are distinguished from others by double-toothed edges on the leaflets are sometimes considered a separate species. The two species' chromosome counts are entirely different, so it seems they are not actually related. Father Serra and other Spaniards were not concerned with such minute differences.

There is, however, one difference between the dog rose and **Rosa californica** wildlings of the old and new worlds, which reinforce the belief that it was California's native rose and not one of Castile over which the newcomers exclaimed.

The rose of Spain blooms in clusters of two to five blossoms — **R. californica** most often has a large head. Pressed (herbarium) specimens of our wild rose at Rancho Santa Barbara Botanic Garden show repeatedly the good size of the California native's clusters. In almost every notation about the roses, the Spanish exclaim over the number of flowers, dead, blooming, or still in bud. They were impressed! The number of blooms was remarkable to them though the rose itself seemed familiar. Serra writes in his diary:

> "The branch of a rose just is at this moment caressing the hand that is setting down these lines. It has three full-blown roses, some buds which are about to open and six roses whose petals have fallen. I bless thee Lord, for having created the 'Rose of Castile'!"



Rosa minutifolia found densely east of La Turquesa almost 200 miles south of Ensenada in Baja California. Too rigid to be mistaken for any common European rose.

Another rose found wild today in Baja California and on western Otay Mesa, **rosa minutifolia,** is sharply prickled over straight stems with tiny leaves. It would not remind the newcomers of any common rose of Spain. Even today Europeans exclaim at the strangeness of this and **Rosa stellata** (found in the Grand Canyon) which it resembles.

But **R. californica**, found from Baja California's San Pedro Martir mountains, two thirds of the way up the penninsula, north into Oregon, would definitely seem familiar — their 'Rose of Castile'.

Evacuation for Water Effects

By Bob Fenner

Once that you've decided on a water effect for your landscape and given consideration (design) as to location, size, shape to accommodate drainage, proximity to utilities and aesthetics, it is time to plan construction.

First in order of importance and typically number one in cost is excavation. My advice is to use power tools and equipment when and wherever possible. The costs in blisters, backache, lost time and sleep, are much greater than the rental of a power digger, demolition hammer, backhoe or tractor. However, if the basins are small enough, and your resolve strong enough, you may find pick axe and shovel work to your liking.

A philosophy of digging methods and attitudes might fill a book. Suffice it to say that:

1) You're going to divide the world into two parts; the hole and not the hole.
2) Work from a measured, marked off edge (use chalk or flour).
3) Get help! The job goes easier and is more fun when friends and family pitch in.
4) Pace yourself. Rome and your feature will not be built in one day. Don't hurt yourself by pushing too hard, too long, and fast.
5) Don't stop digging! If you have any doubt as to whether your basin is big, deep enough, or the sides steep enough, keep going. When the sides are formed and the bottom laid, you'll lose volume. By not filling all the way to the top, you'll lose volume. By implacing rocks, you'll lose volume. It is easier to dig the system right once, than to break it out and do it again.
6) Enjoy yourself. Keep the end result foremost in your mind. You are an artist.

After pulling out the soil, you'll discover evidence refuting the law of conservation of matter. You have more material then will fit back in the hole! Perhaps you're lucky and can scatter your excavated soil or maybe have available a canyon of your own, or neighbors' low spot in need of fill. Maybe this is your big chance to do some mounding and add to your landscapes "hilliness".

Whatever way you do it, the worst part of waterscaping is usually excavation.

It's a good idea to check with your plot plan, and utility companies before digging. Local waterscape and landscape companies can be helpful in suggesting the best available, most appropriate technologies.

If you have to dynamite, do it; you'll be well on your way to completion.

Bob Fenner is our resident expert on waterscaping with partnerships in Aquatic Environments, design and construction, Aquatic Life Services, maintenance and service, Wet Pets, a retail outlet, Aqua Chem Tech, manufacturing, and Aquaritech, distribution.



Broccoli

By Eleanore Macy

This is one of the easiest of the brassicas to grow, giving extended harvests from a single planting. We have nursed single plants for over one year just for fun, making continuous pickings during that time. However, new plants make larger and tenderer sprouts, so the broccoli patch should be renewed every four to six months for best eating.

CULTURE:

The best time to start broccoli is during the cooler times of the year. The plants may be directly seeded without transplanting. Transplants are more hardy, however, and if you are in an interior valley which has frequent winter frosts, transplants are more certain. Either way, start broccoli from August to October for production in fall and through the winter into spring. Start them again in February or March for production in late spring and into summer. Plant the seeds 1/2 inch deep in clumps of 8 to 10 seeds, at least 18" apart in all directions. A cupful of cottonseed meal worked into the soil immediately below each clump of seeds makes much bigger plants. Broccoli will grow in soils of only moderate fertility, but to get really big, supermarket-sized heads, very high levels of nitrogen are required throughout the entire growth period. Thin gradually to the best single plant per clump.

INSECTS:

Control aphids by spraying them off the plant with a strong water jet, or learn to tolerate a few in the flowers — they do no harm if eaten. To maintain a garden **completely** free of aphids requires continuous spraying, and usually organics don't do the job. Control cabbage worms with Dipel.

HARVEST:

After the central head is cut, many smaller side shoots will develop, particularly on non-hybrid varieties. Heavily side dressing the plants with a nitrogen source such as fresh blood meal or fresh manure just when the central shoot begins to form will stimulate more rapid vegetative growth and give much larger pickings of much larger side shoots. Continued side dressings can keep a single plant vigorous and productive for a long time. When picking the side shoots, cut them off all the way back to the main stem. This practice prevents the growth of too many very small shoots.

WALTHAM 29: 60 days. The best open-pollinated strain for fall harvest. Sturdy plants develop large 8-9" central heads of very good quality from a late summer planting. A good crop of winter side shoots follows that. Far frost-hardier than anything Southern California can dish out, Waltham will continue production into spring — with side dressings whenever growth slows down. Recommended by U.C.

DE CICCO: 60 days. An old reliable open-pollinated strain for spring planting, mainly. More variable than the hybrids, but also more productive, De Cicco provides lots of medium sized side shoots after the large, green, tightly budded central head is cut. Recommended by U.S. Extension for home gardens in California.

83 GREEN DUKE: 60 days. This is number one broccoli with the commercial growers in California. Green Duke has almost driven out all other varieties in that market. Growers generally direct seed it in the field and thin their rows to about 14" apart **in very rich soil.** (We suggest you try an 18" spacing the first time you grow it.) Even this close together, the plant makes uniform fields of large, supermarket type heads. Green Duke isn't for the production of side shoots. Once the central head is cut, you may as well pull the plant out. Green Duke is for the gardener who wants to can or freeze large quantities of broccoli.

Eleanore Macy is President of California Gardeners Seed Company, 904 Silver Spur Road, Suite 414, Rolling Hills Estates, CA 90274.

COFFEE TREE

By Ruby Law

The coffee tree shrub is a conversation show piece plant restricted to the mild sub-tropical climate of California, found growing in protected landscapes from San Diego to San Francisco.

The ornamental coffee tree originated in Turkey; now it is growing in tropical zones all over the world. The island of Trinidad has one of the largest plantations. The shrub is grown in the shade of taller trees in the tropics.

The coffee tree fruit ripens to red edible cherries having two bean-like seeds that are roasted and ground for a very aromatic drink.

I grew a Kona coffee tree plant. The fourth year of age it produced fruit. I put it in the California Rare Fruit Growers exhibit at the L.A. County Fair and the public was made acquainted with the taste of the ripened cherries.



PHOTO BY WILBUR GLOVER

African Native

By California Association of Nurserymen

The bird of paradise is an extraordinary plant with handsome foliage and flowers. It is distinctly tropical in appearance and admired greatly for use outdoors in warm climate areas doing well in southern California and with care can be grown in northern California.

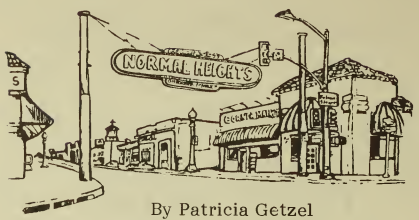
Botanically, this native of Africa, is known as Strelitzia, a name honoring King George III of England's Queen charlotte Sophia, Duchess of Mecklenburg-Strelitz. The plant is as exotic as the origin of its name. Its flowers are grouped in unusual-structured heads of striking appearance and are actually several blooms opening in succession.

What is known as the common bird of paradise is **Strelitzia reginae.** It has paddle shaped leaves about four to six inches wide and stiff flower stalks topped by a head of blooms that in appearance is suggestive of a large, colorful tropical bird. What is referred to as the beak and head is edged in red and from the top of this sprouts what looks like the crest of a cockatoo in brilliant orange-yellow with purple-blue petals. The overall size of the plant can reach five feet and its flowers are good for cutting.

There is also a giant bird of paradise, **Strelitzia nicolai,** which is known for its large banana-like leaves and not its flowers. Feed it frequently when young and then little or no feeding is required once it is established. Just keep it watered and cut off any dead leaves. These leaves can reach five feet in length or up to ten feet growing in a fanlike manner on stalks.

Strelitzias can be grown permanently outdoors only in warm climates where there is little or no frost. Give them a rich, well draining soil, one that will stay moist but not wet. They like the sun except where very hot and then should only receive morning sun. Avoid a planting area with a draft or one with reflected heat. Be sure to consider it, though, for placement around your swimming pool.

Children's Garden in Normal Heights



By Patricia Getzel

On April 4, 1986, the Normal Heights Community Development Corporation (NHCDC) sponsored a ground breaking ceremony for the only cross-generational cooperative garden currently operating in San Diego. The children involved in the project have senior citizen sponsors who instruct them on how to grow vegetables. Twenty-nine elementary school children and seven seniors participated in the gardening effort.

City Councilwoman Gloria McColl, School Board President Susan Davis, the Principal of Adams Elementary School, John Jones and the school children assisted with the opening day festivities.

"This is a wonderful opportunity for children in Mid-City to learn not only about gardening but about some of their older neighbors as well" said Councilwoman Gloria McColl. "It should add to even greater community spirit in Normal Heights." Susan Davis stated that it was a way of extending learning outside of the classroom. "Not only will the children in the program benefit but so will their families and friends." The Garden is located next to Adams Elementary School which the children in this program attend.

This is the third garden site sponsored by the NHCDC over the past year. The first two sites accommodate 17 gardeners. During the first year, the average gardener was able to harvest approximately 75-80 lbs. of vegetables or nearly 1500 pounds in total raised by the gardeners.

"Hopefully, we will be able to obtain some financial assistance over the summer to help the Childrens Garden", stated Patricia Getzel, Executive Director of the NHCDC. "The garden program is an important vehicle in promoting individual self-esteem as well as strengthening community bonds.

Currently the program has borrowed tools but hopes to purchase some permanent equipment. The Adams School P.T.A. approved a donation of one hundred dollars for seeds and hoses to get the program started. In addition, plans included a Harvest Potluck Dinner, Contests for the Children, and the publication of a children's gardening handbook in several different languages. Adams Elementary School has a total of over a dozen languages spoken as the primary language of the attending students.

Date Growing in California

By Wilbur G. Wood



The date palm, **Phoenix dactylifera,** is one of ten or more species in the genus. All of the other date palms are grown as ornamentals only. **P. canariensis** is the one most commonly grown. The date palm will ultimately grow to about 100 feet tall with long, spreading leaves at the top. The leaves are pinnately compound. The leaflets are long with the edges folded up, differing in that respect from most tropical palms with pinnate leaves.

Early Date Culture

Until the palms become quite old, offshoots grow at the base of the trunk. The female and male flowers are borne on separate trees. Natural pollination is by wind. The flowers, female or male, are in large panicles arising between the leaves, then drooping below the leaves. The individual flowers are small and yellow. Blooming time is usually from March to May. The trees will withstand temperatures to 10°F. with only minor leaf damage. The date is probably native to North Africa or Arabia.

Dates have been grown for longer than there are written records. The earliest records from Egypt and Asia Minor indicate that the growing of dates was already well established. Very early date culture spread to southern Europe and to southern Asia. Since antiquity, dates have been a very important part of the diet of the people where dates were grown. Dry or cooking dates were largely used.

Dates grown from seed do not usually produce fruit like that from the parent tree; therefore many hundreds of date types have been grown. Early growers learned to propagate select varieties by using offshoots. Dry areas with long hot summers and mild winters are the places where dates do best. However, plenty of water is required at the roots of the tres. These conditions largely determined the early spread of date culture.

The Date Comes to America

The first introduction of date palms into North America was made by the Spanish. As they established settlements they planted seeds of trees and other economic plants. Included were date palms which grew well in most locations but there are no records of fruiting. The earliest settlements were in Mexico and the area which is now Florida and the islands adjacent. These were all coastal locations with high humidity, a situation where date palms will grow well but will not yield fruit.

As the line of missions was extended from Mexico into California the practice of seed planting was continued including that of dates. The first crude mission building was San Diego de Alcala in 1769. Dates were no doubt planted within a year or so. These old palms would now be over 200 years old. It is not known whether or not these trees bore fruit for the padres.

The lack of adequate fruit production from early plantings in California was responsible for the lack of interest in growing dates until the late 1800's. Date seeds were planted from time to time and in various places and fruit was ultimately produced. The earliest record of California-grown dates was the exhibition, at the Mechanics Institute Fair in San Francisco in September 1877, of dates grown by J.R. Wolfskill. The trees were grown from seeds of dates purchased in San Francisco and planted about 1858. The trees were planted just south of Putah Creek and a few miles west of Davis. There is a small town named Wolfskill in that area now. Wolfskill planted another tree from seed in 1863 at his home nearby. This tree bore fruit in 1880.

Origins of Commerical Plantings

The United States Department of Agriculture's work of seed and plant introduction was organized by David G. Fairchild in 1897. He also established plant introduction stations. The first one was in Florida and one of the others is in Chico, California.

Fairchild became a plant explorer for the U.S.D.A. in 1898. In 1901 he selected and sent in from Egypt six varieties of dates. Earlier that year Walter T. Swingle, another plant explorer, had sent in offshoots of several date varieties from the Sahara which included Deglet Noor. These two introductions were planted in Tempe, Arizona. The U.S.D.A. had selected this site in Arizona as probably the best location in the United States for growing dates. The garden was planted in 1901 with the cooperation of the Arizona State Experimental Station.

Earlier, a date palm had been planted in Tucson on the college campus. In 1901, this tree bore 125 pounds of dates only five years after it had been planted. Also in 1901 there were some date palms in Phoenix that had been introduced from Egypt. The date garden in Tempe prospered and bore large crops, although the location did not prove to be as good as expected. Meanwhile a better location had been selected in California near the Salton Sea. This was the start of commercial date growing in California.

In 1902 Fairchild went back to Asia Minor for more varieties of dates. At Baghdad and surrounding areas he obtained many offshoots of various kinds including the Ford. The offshoots collected and shipped to the United States weighed 30 or more pounds each. Also in 1902, Swingle was put in charge of the introduction of dates, pistachio nuts, Egyptian cotton and other economic plants.

Several research stations for dates were established early to encourage their commercial growing. Arizona was the first in 1899, California was next in 1904, then Texas in 1907. More than 200 varieties were tested but only a few were grown commercially. These included Deglet Noor, Tanzizaoot, Halawy, Kadrowy, Marktoom and Hayany. These are listings for 50 years ago. There are no doubt new varieties now. Some of the old names have been changed in an effort to boost sales.

Cultural Factors

The successful culture of dates is dependent on several factors:

Weather. A long, dry, hot summer is required for bringing the fruit to the proper stage of maturity and ripeness. Winters should be mild with temperatures above 10° F. to prevent leaf damage. Spring should be early as the date palm blooms from March to May.

Water. Although the date palm needs a dry summer it also needs a copious supply of water at the roots. The water may contain some alkali or salt as this will do no harm to the tree. When offshoots are being rooted or new trees are planted, daily watering may be required.

Soil. The date palm will tolerate quite poor soil, even considerable alkali or salt. Sandy soils are preferred.

Variety. There are a great many varieties of dates. Their requirements vary to some extent. Some require a longer hot season than others. Some bloom early, some later. These factors need to be considered in selecting varieties.

Seedling trees cannot be depended on for good fruit. Therefore offshoots from desired kinds should be planted. The offshoots should be removed from the parent tree in the spring or early summer so that they may be rooted before cool weather.

Pollination

Natural pollination is by wind. This is quite uncertain and requires many male trees. Tying small bundles of male flowers into the panicles of female flowers has been done for hundreds of years. This practice involves much labor as well as other difficulties as the trees become



very tall. A modern method is replacing this hand method. A vacuum device to collect pollen is lifted to the male panicles by a crane. The pollination is then effected by blowing the pollen over the female panicles, again using a crane.

All the dates in a panicle do not ripen at the same time. This requires repeated picking. This excessive labor has been eliminated by taking the entire panicle when the dates are mature and ripening them artificially. This may be done by hanging the bunches in a warm room for a few days or by a shorter time in a warm oven. Some other methods have also been used.

Home Growing

Considering the information already given, the home growing of dates seems possible at least for some situations. There are many places in California where the weather would not often be a problem. A very young tree could be protected from unusually cold weather by covering. If the weather turned cool too soon for the natural ripening, artificial methods could be used.

Obtaining a tree can be somewhat of a problem. Offshoots are large, not readily available and expensive. Seeds would seem to be a better choice. Dates from the market yield seeds that will grow readily if they have not been pasteurized. While fruit from seedling trees will not come true, reasonably good dates may be expected. Several seedlings will need to be grown as the trees are either female or male. In order to tell which is which, the seedlings will need to be grown until they bloom, usually three to four years or more.

When a female tree is obtained it should be planted in an area where there is plenty of room to grow and there is full sun. A male tree may not be needed as pollen from any species of date palm is suitable. There are usually some Canary Island palms around. If not, pollen from a distance can be collected. It will keep for quite a while.

The tree should be planted during hot weather and watered daily for a week or so. When the tree gets large it will be difficult to transplant and get it to live. A mulch around the tree will help keep the ground moist. Very little additional care will be needed other than cutting off dead leaves.

References

1. L.H. Bailey, "The Standard Cyclopedia of Horticulture."
2. David Fairchild, "The World Was My Garden."
3. Edward J. Wickson, "California Fruits."

Permission granted from California Rare Fruit Growers to reprint this article from their 1986 Journal.

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Cover Those Slopes

By Mark Collins

Planting bare slopes and interplanting existing slopes is the most important gardening task for a homeowner in San Diego area this fall.

A properly planted slope will prevent water erosion and fire. The key is good irrigation, fertilization, and suitable plants. In less than three months, that slope will be productive.

Sprinklers are the best source of irrigation. Toro stream rotors or Hunter rotors are recommended because they provide an even watering.

San Diego land is basically starving to death so fertilizer is extremely important. I would suggest Gro-power or some of the liquid fertilizers like fish emollient or Terrouite.

A variety of plants can be used, depending on how steep a slope is. The steepest slope, usually 45-degreees, requires a jute netting called Soil Saver. It stabilizes the ground while new plants get a good start. The netting is stapled into the ground with groundcover interplanted. As the plants grow, they cover the net and it eventually disintegrates.

The three most efficient groundcovers are Disneyland, Rosea and Red Apple Iceplant. They offer the best protection for even the steepest grades and against fire. Gazanias resemble daisies and are orange, yellow and red and are appropriate for moderate slopes. Shrubs and trees are just as suitable for groundcover and can provide interesting color and texture as well. The Cape Honeysuckle is a low, rambling shrub with yellow, orange or red flowers and blooms in late summer and fall. Another summer and fall bloomer is the Plumbago which has brilliant blue flowers. Acacia Prostrata, a gray-green shrub, also does well on banks.

If existing groundcover has grown past its lifespan, it may be necessary to re-plant. If that's the case, wait till Spring. Even though it's looking tattered, it's keeping the hill from eroding. There are some alternatives though.

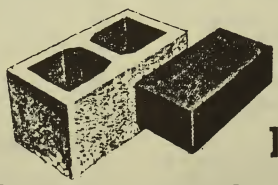
Usually the biggest problem is poor irrigation. The solution may be changing the sprinkler heads, re-locating them or raising the water pressure.

Another alternative to completely stripping the area is to interplant. Some good plant choices include the Bougainvillea, Acacia and Lantana.

Mark Collins is founder and owner of Evergreen Nursery in San Diego.

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The Winged Bean

By Charles T. Robinson

The Winged Bean is a tropical legume which is grown in Papua, New Guinea and southeast Asia. Practically all parts of this climbing bean are edible. The pods are four sided, with serrate wings running the length of the green pods. The leaves and seeds are all high in protein and vitamins. The tuberous roots also have a high protein content (about 20%, as compared to 2% for potatoes). The seeds are a source of edible oil. A flour is made from the seeds.

Winged beans add nitrogen to the soil through their nitrogen fixing nodules. Because all parts of the plant contain high levels of nitrogen, it makes a good green manure.

The seeds are similar to soybeans in composition. They are 34% protein and 17% oil.

Although winged beans are indigenous to the humid tropics, they grow well in drier regions if irrigated. It can be grown in poor soil and does not require inoculation for vigorous growth. Wing bean can not tolerate water logging or soil salinity.

Seeds are viable for about a year. Plants will also develop from tubers which are left in the ground.

Winged beans are often interplanted with sweet potatoes, bananas, sugar cane, and other vegetable crops.

Winged bean cultivation differs depending on whether high seed yield or tuber yield is desired.

For seed production, place three seed in holes placed 24" by 24".

For pod production, plant with 18" to 24" between plants, and 24" to 48" between rows.

Seeds should be sown one inch deep. Supports of some kind are needed for vine to twine around.

For tuber production, seeds are planted on ridges which are 24" wide and 8" to 10" high. Seeds are planted 3" deep, 3" to 6" apart. No supports are provided. Plants are allowed to ramble on the ground and will reach a height of one foot. Tubers are mature in 120 to 240 days after sowing. Harvest when 1"-2" in diameter and 3"-5" long.

Immature pods are eaten raw in salads or cooked like green beans. (They even taste like green beans). Older pods are too fibrous to be eaten like green beans.

Tubers are peeled and eaten raw, or boiled like potatoes. The tubers taste slightly sweet and have the consistency of an apple.

Unripe seeds are eaten like peas. Mature dried seed are difficult to cook and are indigestible. They are sometimes roasted and eaten like ground nuts.

Young leaves and flowers of winged bean are eaten raw, steamed or added to fish soups. The flowers are sometimes fried in oil and reportedly taste like mushrooms.

Charles T. Robinson, Master Gardener, University of California, Cooperative Extension, San Diego County.



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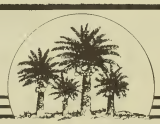
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Book Reviews

By Mary Lou Orphey

FLOWERING POT PLANTS, All Year Round, by Gordon Procter. 1986. Sterling Publishing Co., Inc. Two Park Avenue, New York 10016 7 3/4 x 10 in. Hardcover $17.95 (U.S.) $24.95 (Can.) 128 pages.

Gardeners find the effort of growing flowering plants worthwhile for the beauty they bring. It is easier to be successful if one understands the growing and blooming requirements of plants. The author describes optimum conditions of light, temperature and atmosphere, watering, feeding, propagation, and potting.

Many of the plants included in this colorful book can be grown indoors or in greenhouses. Twenty-eight varieties are discussed in general. Information included on each variety is flowering time and cultivation. In addition, there are other varieties discussed in chapters on plants to grow from cuttings, plants to grow from seeds, foliage plants, bulbs, and exotic plants.

For those interested in surrounding themselves with living color year round, this book will be an inspiration.

Llewellyn's 1987 MOON SIGN BOOK & Gardening Guide. Edited by Terry Buske, 1986 Llewellyn Publications, P.O. Box 64383-429, St. Paul, MN 55164-0383. 4¼ x 7 in. Paperback $3.95 400 pages.

The book is not limited to gardening, as it explores many aspects of astrology such as the Astro Almanac - what to do each month of the year and astrological forecasts for 1987.

Fifty-two pages on gardening include advice on organic gardening, best planting dates, planting root crops, potted plants, and moon gardening.

Astrological gardeners will find the MOON SIGN BOOK their gardening guide for 1987.



IN AN IRISH GARDEN. Edited by Sybil Connolly and Helen Dillon. Photographs by Walter Pfeiffer. 1986. Harmony Books, a division of Crown Publishers, Inc. 225 Park Avenue South, New York 10003. 9 x 11½ in. Hardcover. $40.00 160 pages.

Where do we find beauty? It is at Kilmokea, Old Mill House, Kilgobbin, Castletown Cox and all of the other twenty-three Irish gardens included in this fascinating book.

Enjoy a tour hosted by each of the owners. Find out about their personal experiences in gardening, plants they love and hate, problems solved and dreams fulfilled. Smell the old roses blooming, feel the cool Irish mist, hear the silence of morning wakening. It is all captured in the words of these talented amateur gardeners, and in beautiful photographs.

Whether one is a collector of plants, or a maker of garden pictures, the wealth of experience captured in this delightful book will provide hours of intense satisfaction.

MAKING & USING TERRARIUMS & PLANTERS by Allen and Stella Daley. 1986 Published by Blandford Press, represented and distributed by Sterling Publishing Co., Inc. Two Park Avenue, New York 10016. 7 3/4 x 10 cm. Hardcover $17.95 (U.S.) $24.95 (Can.) 144 pages.

Terrariums are an attractive way to showcase plants. Besides, little care is required if the choice of plants, the right soil and amount of moisture is suitable for the size of the terrarium.

One learns how various types of glass are made, what tools to use, how to soder, and how to assemble terrariums. There are plans for making a Petal Planter, Diamond Planter, the Victorian, Gazebo, Parasol, Rocket, Tiniarium, and Mirror-back. Also included is advice on planting, what plants to use, and how to preserve flowers for use in terrariums.

Anyone interested in making glass, constructing or planting terrariums will find this book of interest.

BROMELIADS, Beautiful, Impressive, and Easy to Grow, by Victoria Padilla. 1986 Crown Publishers, Inc., 225 Park Avenue, New York 10003. 8¼ x 11 in. Paperback $12.95 134 pages.

Most people have purchased a bromeliad whether they realize it or not. The pineapple, **ananas comosus,** is the most popular one. To propagate it, all one needs to do is cut off the top, plant it in sand and it should grow. But one needs to know more about bromeliads than that to be successful growing them. Victoria Padilla's book provides background information on a great family of plants noted for their foliage and exquisite flowers.

Intended to help the beginner in his selection of plants, this reference book on bromeliads discusses their general characteristics, history, and culture. Twenty-five genera and hundreds of species are described. One learns what the various species look like, how they live in their native lands, and how adaptable they are to our growing conditions.

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remove dead leaves from plants.
make sure plants do not become too dry.
move plants to more protective place if they are getting too much moisture from rains.
spray for mildew, mealybugs, or loopers.
control slugs and snails.
start cutting back - lightly on the canes and shrub type toward end of period.
start tuberous begonias in February for bloom later.

BONSAI Dr. Herbert Markowitz

use a dormant spray such as copper, oil, or lime/sulphur mixtures - particularly on maples, quince, and other deciduous trees, after they have been pruned.
watch for aphids and other sucking insects and spray accordingly.
remember NOT to fertilize your trees.
graft conifers during January, and the deciduous trees in February.
observe deciduous trees carefully. If there is warm weather in late February, keep trees in the shade so they will not start blooming and sprouting too early.
remember NOT to overwater - reduce watering during rainy period.

BROMELIADS Mary Siemers

water plants in colder months only when it hasn't rained, and center cups and potting media are almost or completely dry.
use rain water, however, when it rains on plants for more than two consecutive days, empty water from plants - having too much water. Weight can cause their leaves to spread apart and affect their form, especially on **Genus Neoregelia.**
protect plants from freezing temperatures by covering with sheets, newspapers, etc. or bring them indoors.
keep plants indoors. Be careful not to place in front of heating vent or a drafty area. Spray entire plant generously, filling its cups at least once a week, as humidity is most important. Change water in the cups monthly to keep from becoming stagnant and possibly causing center rot.
provide good drainage and never allow potting media to be soggy.

CACTI & SUCCULENTS Frank Thrombley

remember that all cacti and succulents have a dormancy period in habitat. Therefore, do not be alarmed if your plants have lost or are losing their leaves, shrinking in size, or in some cases, change their color. Do not water during this dormant period.
protect the non-frost resistant plants that are planted in the garden against frost or freezing nights. There are many micro climates in southern California; some have frost - so beware. Protect with paper bags or throw cloths over the plants.
fertilize your winter growing plants as you did with others during their growing seasons.
clean the garden and/or greenhouse as a preventative measure to discourage mice, the friendly roof rats (which are fruit and vegetable eaters) and snails and slugs.
plan for the next growing season for the best displays of your plants - what a joy to see them shape-up in the spring.

CAMELLIAS Benjamin Berry

choose and plant camellias while they are in bloom.
remove and be sure to pick up fallen blossoms to avoid infestation.
use a fungicide if needed.
feed 0-10-10 fertilizer to established plants.
maintain a regular watering program to supplement periods between rains.
remember camellias like moist, but not wet soil.
check soil mulch and add either fir bark or pine needles at base of established plants.
continue to spray for looper worms and dust for leaf beetles with chlordane.
fertilize newly transplanted bushes, but water well and often with Vitamin B1 solution.

DAHLIAS Abe Janzen

cut off the tops just above the ground and dig any tubers left in the bed. By early January the tops should be completely withered.
store tubers without dividing, and leave on any soil that clings to them. Store in vermiculite or sand and keep in a cool place.
start in February to prepare the planting bed. Turn the soil, add humus, and fumigate. Two or three weeks before planting, thoroughly dig in humus and equal parts of superphosphate and sulphate of potash.

EPIPHYLLUMS (Orchid Cactus) Frank Granatowski

take advantage of the beneficial rains. With proper porous soil, even heavy rains will have no harmful effect on plants. Collect

the rain water for future use. Store in opaque containers to prevent infestations of mosquito larva and buildup of algae.

bait for slugs and snails. A few granules of Sluggeta placed at the base of the plant has proved to be very effective and leaves little or no unsightly residue.

protect from unexpected frost and strong wintry winds.

feed mature plants with nitrogen-free or low nitrogen fertilizer such as Bloom-Builder (0-10-10) to promote blooming in the spring. Either liquid or time release granules can be used. If liquid fertilizer is used, a subsequent application is advisable in about a month.

prune out non-productive and unsightly growth to allow more energy to be utilized by newer and healthier branches.

maintain preventative pest control by keeping plant containers free of debris. Spray with insecticides only when absolutely necessary. Orthene, Malathion, and Cygon are available locally. Read and follow directions carefully.

FERNS Ray Sodomka

water. Do not rely on rains for sufficient moisture.

trim off old fronds only in frost free areas.

spray for aphids - especially on maiden-hair ferns.

keep after slugs, pill bugs (sow bugs), etc.; cold weather does not stop them.

fertilize platyceriums (staghorns) - give bone meal, hoof and horn, or a high-nitrogen liquid.

take "pups" from platyceriums and mount.

replant spore.

cover and protect plants during the night in frost areas. Cover with newspaper, sheets, or plastic bags. Place in garage if necessary.

cut back on fertilizer - use pellets instead of liquid, due to the cold nights.

FUCHSIAS William Selby

cut back in frost free areas and take cuttings.

clean up - remove all dead foliage and blossoms.

clean pots and baskets of anything that might hide fungus or insect eggs.

do a clean-up spraying to eliminate pests that might winter over.

apply a fertilizer high in nitrogen for lush growth as the plants show new growth.

GERANIUMS Carol Roller

water only when plants become fairly dry. Each watering should moisten the entire soil ball. Excess water should drain away. Keep foliage as dry as possible.

continue feeding a balanced fertilizer dissolved in water, using at less than the recommended strength, often enough to keep plants from developing nutritional deficiencies.

prune any plants which have not been cut back. At least one green leaf should remain on each stem which has been cut. Lanky plants which were pruned in the fall can be pruned again to produce compact plants. Tip pinch the other plants which were pruned in the fall.

make cuttings from the prunings. Shelter the cuttings from extreme weather.

protect all plants against freezing if temperatures go that low.

continue pest and disease control using products according to the manufacturer's directions.

rotate plants on a regular basis in order to produce well-shaped plants.

GESNERIADS Michael Ludwig

be sure not to water on a cold or cloudy day, or late in the afternoon to prevent problems.

spray for pests and disease, if necessary. Plants are somewhat dormant and less subject to damage.

prepare pots for the growing season - wash with hot water and let stand overnight in Clorex solution to sterilize. Wash thoroughly after the soaking, and let dry a day or more.

start rhizomes of achimenes. Place them on top of damp vermiculite in a shoe box; watch the new growth for mold. Sprouts should be showing in 15 to 30 days. Place them in a loose potting mix, barely cover, water thoroughly, and wait for sprouts to show through the soil.

repot streptocarpus. Remove last year's flowering leaves and clean up the plant; repot to have a better plant.

IRIS San Diego-Imperial Counties Iris Society

make last planting of bulbous iris for spring bloom.

continue a watering program, especially if rains are light.

start a regular spray program with copper oil spray to help control rust.

start in February to feed all iris with 0-10-10 liquid fertilizer; follow directions and do not over fertilize.

establish a regular program of snail, slug, and aphid control.

keep old brown fans cut off tall-bearded; good ground cleaning and spraying is helpful in pest control.

ORCHIDS Charlie Fouquette

always check the moisture in pots of outdoor-growing orchids, including cymbidiums, under cover to protect from the cold rains and possible hail damage.

continue staking and grooming cymbidium's flower spikes.

use low-nitrogen fertilizer on cymbidiums.

Do not feed if overcast.
keep mobile-type dendrobiums on the dry side. Watch for the swelling of nodes for flower production, then move them where it is warmer.
remember phals should be spiking; and if moving the plant, place it in same general direction and area so flower will bloom in a uniform manner.
watch closely for slugs and snails; these pests are coming out of hibernation and proliferating after the rains. Granules of 7.5 percent metaldehyde is an excellent bait and does not attract children or pets and does not leave a mess.
water early in the morning so crowns will be dry by nightfall.
be aware of any sudden temperature drops in outlying areas.

ROSES San Diego Rose Society
finish all major pruning; follow with a garden cleanup and dormant spraying of bushes and surrounding areas.
watch for dates of the demonstration on pruning in Balboa Park Rose Garden in San Diego, California.
plant bareroot roses. Mound each bush with damp mulch material until new growth starts, to prevent dehydration.
feed established roses as new growth starts one cupful per bush.
give newly planted bushes a liquid fertilizer six weeks after planting.
start preventative spraying in February for mildew and aphids, using ½ strength on new foliage.
add iron chelates after roots start growing. Iron can only be absorbed by new roots.
establish a regular watering and spraying program.

VEGETABLES
set plants of broccoli, Brussels sprouts, cabbage, celery, cauliflower, chard, and collards any time the soil is dry enough to work.
start seeds indoors of spring vegetables that can be transplanted.
plant divisions of artichoke, roots of asparagus, and plants of fruiting berry vines as soon as possible before the end of February.
search for new and superior varieties of spring and summer vegetables.
plant onion sets and make a second planting of lettuce using started plants.

GREEN THUMB Penny Bunker
spray deciduous trees and shrubs with a combination insecticide and fungicide, such as oil and lime-sulphur or copper. Follow directions as given. Continue bait for slugs and snails.
prune flowering trees and shrubs. Pruning at this time will shape the plants and the flowers may be used in arrangements.
plant bareroot trees.
cut chrysanthemums back to the ground.
plant hybrid amaryllis bulbs, with the tip of nose just showing, in a sunny or semi-shaded area.
start plantings of gladiolus bulbs; make successive plantings at monthly intervals for flowers over a longer period of time.
make marguerite cuttings from new tips. Remove lower leaves and insert cutting in rooting medium. Keep in shaded place until rooted.
prune out old branches of pyracanthas after berries are gone and shape as necessary.

California SINCE 1909
GARDEN

Single copies of the current issue of CALIFORNIA GARDEN magazine can be purchased for one dollar ($1.00) each at the following locations:

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HORTICULTURE CALENDAR

February 28, March 1
OHARA School of Ikebana Show
Casa del Prado, Room 101, Balboa Park, 10-4:30 p.m. Free.

March through July
Artist, Writer, and Garden Designer, Karen Kees' "California Cottage Garden" will be open March through July
Tuesdays 1:00-3:00 p.m. at 12819 Selma Court, Poway, CA 92064.

March 7, 8
San Diego Daytime African Violet Society's 6th Annual Show
Casa del Prado, Room 101, Balboa Park, Sat: 1-5 p.m.; Sun: 10-4 p.m. Free.

March 21, 22
19th Annual Festival of Ikebana and Japanese Art
By San Diego Chapter 119, Ikebana International, Casa del Prado, Room 101, Balboa Park. Free.

April 3 & 4
Hydroponic Society of America's (HSA) Eighth Annual Conference and Trade Show
At the new San Francisco Airport Marriott Hotel. Theme is "Hydroponics: Effective Growing Techniques". Attendance is open to the public. Info: (415) 682-4193 or write Gene Brisbon, P.O. Box 6067, Concord, CA 94524.

April 4, 11
The Garden Club of Charleston, South Carolina's 52nd Annual Spring House and Garden Tours
Includes many private historic homes and gardens. 2-5 p.m. Admission charge. Information: Mrs. A. Jerome Blalock, 137 Broad Street, Charleston, S.C. 29401.

April 12, 13
Rancho Santa Fe Garden Club's Annual Flower Show and Plant Sale. Theme "Kaleidoscope"
Garden Club, La Granada and Avenida Acacias, Rancho Sante Fe, CA Sat: 1-5 p.m.; Sun: 10-5 p.m. Fee. Open to Public. Information: Joan Hamrick (619) 756-2758.

July 19-26
California Seed Tour listed in last issue is only for professional journalists.

Memorable Garden Journey to Hawaii, Mississippi, Southern California, Canadian Rockies and China. Vista Travel Agency, Inc., 148 East State St., Doylestown, PA 18901. (215) 348-4600.

Limited number of copies of Ornamental Plants for Sub-Tropical Regions by Roland Hoyt are available for sale at the San Diego Floral Office, Room 105, Casa del Prado, Balboa Park. Call (619) 232-5762 or write for further information.

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SUBSCRIPTION EXPIRES NEXT ISSUE



Landscape awards winner -- The Hillsborough residence of Michael Ross was the winner of the 1986 President's Trophy from the California Landscape Contractors Association for the best residential landscaping in California. The project was installed by Lehmann Landscaping Co., Inc. of San Mateo. Designer of the project was Cliff Jones of Redwood City. Lehmann Landscaping captured a total of six awards in the annual competition which has recognized the state's top landscape projects for the past 31 years.